

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
Docket No. D.T.E. 03-52**

**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-1 Please clarify the discrepancies between the historical time period used in the customer class forecasts, stated on page 5 of the Company's filing (from 1983 to 1998), the same stated on page 13 and on page 21 of the Company's filing (from 1983 to 2002), and the historical time period stated on page 14 and on page 17 of the Company's filing (from 1983 to 2001).

Company Response:

The Company utilized the period from 1983 to 2001 as the historical time period for the 2003 Integrated Gas Resource Plan. The forecast period for the 2003 Integrated Gas Resource Plan is 2003-2007. Based on the original filing date, the 2002 data was not available, however with the revised filing date the Company was able to include 2002 data as the last year of actual data. Please note that the 2002 data was not utilized in the analysis as it was not available at the time the forecast equations were developed. The historical time period stated on page 5 is the time period for the Company's previous filing, DTE 00-42.

Person Responsible: Robert B. Hevert

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DTE-1-2 Please discuss the consequences in terms of forecast reliability of aggregating the low and high load class volumes in the econometric model. Can the consumption patterns of both low and high load customer be explained by the same variables? Please discuss.

Company Response:

The Company has three commercial and industrial rate classes (small, medium, large) that for rate purposes are further disaggregated by low and high load factor resulting in six commercial and industrial rate classes in total. Based on the historical data set, the small commercial and industrial rate class has approximately 1,030 customers of which 757 or 74% are low load factor (G-41) and approximately 273 (26%) are high load factor (G-51). On an annual use per customer basis, the G-41 customers consume approximately 2,147 therms/customer, while the G-51 customers had an annual average usage of 1,776 therms/customer. Since the Company's forecast filing utilized annual volumes and the annual volume per customer for the G-41 and G-51 customers are comparable, CEA determined that the G-41 and G-51 customer classes could be aggregated. Similar to the G-41 and G-51 rate classes the Company has two rate classes for medium sized commercial and industrial customers. The G-42 customer class represents the low load factor and G-52 customer class represents the high load factor customers. The medium commercial and industrial rate class has approximately 250 customers, of which approximately 166 (67%) are G-42 customers, and approximately 83 (33%) are G-52 customers. On a use per customer basis, the G-42 customers had an annual average usage of 19,175 therms/customer, while the G-52 customers had an annual average usage of 17,126 therms/customer. Since the forecast is conducted annually and the annual volume per customer for the G-42 and G-52 customers are fairly consistent, CEA determined that these classes could be aggregated. The last commercial and industrial class is the G-43 and G-53 large volume rate class. This customer group has only 19 customers, of which approximately 11 (60%) are low load factor (G-43) and approximately 8 (40%) are high load factor (G-53). Given the limited number of customers in the large volume segment, CEA utilized the combined customer class to develop forecast equations.

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DTE-1-2

Company Response (cont.):

Additionally, prior to model specification, low and high load factor customer data were weather normalized separately. This process effectively neutralized any bias in the data that may have resulted from load factor differences.

The Company believes that the consumption patterns of both low and high load factor customers can be explained by the same variables since annual data were used, the rate classes combined involve comparably sized customers (small, medium, large), and the data for low and high load factor customers were weather-normalized separately prior to aggregation.

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DTE-1-3 Please explain the following statement: “Firm sendout is defined as total firm throughput net of firm transportation volumes” (see page 10 of the Company’s filing).

Company Response:

With the advent of retail transportation service, the Company needed to adopt nomenclature that addresses the volumes associated with transportation and those associated with sales. Therefore, firm throughput includes all Company volumes (firm sales, firm transportation, company use, lost and unaccounted for gas); while firm sendout is all of the above less the firm transportation. Please note that firm sales, as used in the 2003 Integrated Gas Resource Plan, is a component of firm throughput and represents the volumes sold under the Company’s tariffs (which could include company sales and third-party sales).

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DTE-1-4 Please explain the following statement: “The historic relationship between firm throughput and total firm sales was projected on a statistical basis and applied to the total firm sales forecast to project future firm throughput” (see page 11 of the Company’s filing).

Company Response:

As discussed on pages 11 and 49 of the Company’s 2003 Integrated Gas Resource Plan, sales volumes were forecast at the customer class level. The aggregated customer class level sales volumes were then adjusted for company use and lost and unaccounted for gas. (Please refer to DTE 1-3 for a discussion of the difference between sales and throughput volumes.)

To develop the firm throughput projection, the company utilized the following five step process. First, the Company compared historical annual firm throughput (which includes company use, lost and unaccounted for gas), and historical annual firm sales (which does not include company use and lost and unaccounted for gas). The percent difference between firm sales and firm throughput was calculated (this percent difference represents the company use and lost and unaccounted for gas). Next, this historical annual percentage was graphed and it was determined that (i) the company use and lost and unaccounted for gas percentage was decreasing over time; and (ii) a logarithmic relationship was observed. The third step in this process was to fit a logarithmic curve to the historical annual company use and lost and unaccounted for gas percentages. Fourth, utilizing the equation for the logarithmic curve developed in the previous step, company use and lost and unaccounted for percentages were forecast. The final step was to apply the forecasted company use and lost and unaccounted for gas percents to the total company sales forecast to obtain the firm throughput forecast.

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DTE-1-5 Please refer to page 13 of the Company's filing. The Company states that the historic data were collected from 1983 through 2002. In addition, the Company states that the forecast data for explanatory variables were obtained for the period 2002 through 2007. Is the year 2002 part of the historic data set or part of the forecast data set?

Company Response:

Please see the response to DTE 1-1.

Person Responsible: Robert B. Hevert

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DTE-1-6 Please refer to page 14 of the Company's filing. Please specify the components of the real price of gas to residential, commercial and industrial customers.

Company Response:

As discussed on page 15 of the 2003 Integrated Gas Resource Plan, the real price of gas to the various customer segments is a hybrid of historical company data and the Global Insights forecast data. The hybrid was developed by applying the Global Insights natural gas price growth rate to the Company's specific gas prices by customer segment. The components of the Company's specific price of gas include: (i) the gas commodity cost; (ii) the interstate pipeline charges; and (iii) the local distribution cost. The Company used the total delivered price to customers in its forecast modeling.

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DTE-1-8 Please explain why the Company uses economic and demographic variables specific to Worcester County (POP, MFGEM, SVCEM, NMEMP, INCPC, HSTOCK, HHSIZE, and HSTART) instead to the Company's specific service territory (see pages 14-15 of the Company's filing).

Company Response:

The Company, in order to manage costs, purchased data that Global Insights had already developed for other projects or as part of their ongoing modeling of regional energy, economic and demographic variables. As shown in Table DTE 1-8 below, nearly 90% of the Company's customers are located in Worcester County, and many of these Worcester County variables were used and approved in DTE 00-42.

Table DTE 1-8

Town	County	Customers*	% Customers
Fitchburg	Worcester	11272	76.0%
Gardner	Worcester	1312	8.8%
Westminster	Worcester	314	2.1%
Lunenburg	Worcester	251	1.7%
Townsend	Middlesex	1575	10.6%
Ashby	Middlesex	114	0.8%
Total		14838	100.0%

*As of December 31, 2002

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DTE-1-11 The Company states that the weather data were not incorporated into the equations as explanatory variables, as all throughput data were weather normalized prior to estimation (see page 17 of the Company's filing). Please discuss why the Company used this strategy versus non-weather normalized data and including the weather variable in the equation for the estimation.

Company Response:

In DTE 98-55 the Company was ordered to use economic and demographic variables (DTE 00-42 at 5) likely to affect the level of use at the customer class level. Consequently, the Company used weather normalized data as the dependent variable and specified regression equations using economic and demographic variables as the explanatory variables. Moreover, the Company believes that if weather were included among the independent variables, it would be difficult to find economic and demographic independent variables that would have significant explanatory power.

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DTE-1-13 Regarding the forecast equation stated in section II of the Company's filing, please:

- (a) indicate the level of statistical significance of the estimates selected by the Company to determine whether or not an independent variable has explanatory power (see page 19 of the Company's filing);
- (b) Did the Company select "A Priori" level of statistical significance? Please explain?

Company Response:

- (a) In general, the Company targeted p-values in the 0.05 to 0.10 range to determine whether or not a given independent variable had sufficient explanatory value to be included in the regression equation.
- (b) As described on page 17 of the 2003 Integrated Resource Plan, the data available for the regression analysis involved relatively small sample sizes and dependent variables for which the majority of the data had been mapped from a prior rate structure to one that was implemented in the latter part of 1998. Consequently, the Company did not apply overly rigid "A Priori" rules with regard to an acceptable level of statistical significance. Values of $p=0.05$ or lower were considered strong, and values as high as $p=0.10$ were considered for inclusion.

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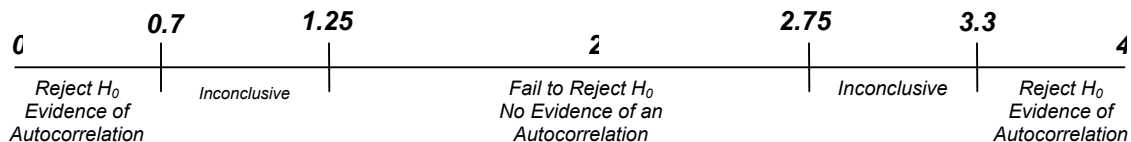
**COMPANY'S RESPONSES TO THE DEPARTMENT'S
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DTE-1-16 Please refer to page 24 of the Company's filing. The Company states that the results of the Durbin-Watson test do not indicate the presence of serial correlation in the residuals. In this regard,

- (a) formulate the null and alternative hypotheses for the autocorrelation test and state the numbers of observations (n), the number of regressors (k):
- (b) draw a line containing the extreme points values of the Durbin-Watson ("DW") (0,4), and the critical values (lower and upper bounds) of DW test; Please mark on the line the rejection, fail to reject, and inconclusive areas of the null hypothesis;
- (c) given the DW-statistics of 1.2 (see page 23 of the Company's filing) and the Company's answer to part a), and part b) above, draw the conclusions from the test;
- (d) does the Company still believe that the DW test does not indicate the presence of serial autocorrelation? Please, explain.

Company Response:

- (a) H_0 : No first order correlation amongst residuals
 H_a : First order correlation amongst residuals
 $n = 12$
 $k = 2$
- (b) At the time the report was written, CEA utilized a standard Durbin-Watson table where the lowest n values are for 15 observations. As such, the following bounds were used (associated with $n=15$, $k=2$).



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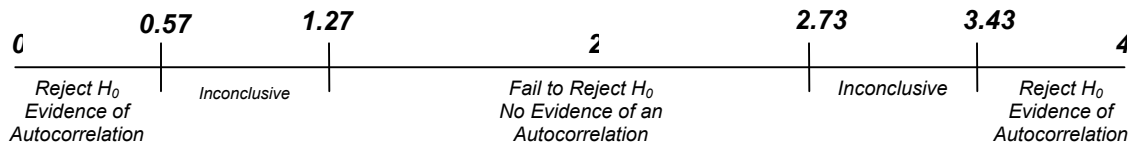
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DTE-1-16

Company Response (cont.):

Upon further research a Durbin-Watson table that included bounds for fewer than 15 observations was obtained. The following bounds are for $n=12$, $k=2$.



- (c) The Durbin-Watson statistic of 1.2 for the residential customer equation falls to the extreme upper end of the inconclusive region for critical values associated with $n=15$, $k=2$ and $n=12$, $k=2$. CEA maintains its conclusion, therefore, that there is no evidence of an autocorrelation in the residuals.
- (d) Yes, as explained in DTE 1-16(c) above.

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DTE-1-19 Please refer to page A-17 and page A-18 of the Appendix of the Company's filing. In this regard, please:

- (a) Does "N" stand for the number of observation?
- (b) Discuss why the Company run the residential customer and residential sales equations using only 12 observations instead of using the entire historical period (1983-2002) (see page 22 of the Company's filing). Please list the years the 12 observations correspond to.

Company Response:

- (a) The "N" on all pages of regression output contained in the Appendix does in fact stand for the number of observations used in the estimation.
- (b) Housing stock data was only available for 12 years (1990-2001). Since housing stock was found to be a good explanatory variable in both the residential customer and volume analyses the residential customer and volume equations were generated based on the 12 years of data corresponding to the housing stock data.

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DTE-1-20 Please refer to the residential forecast results (see page 26, Table 2.8 of the Company's filing). The Company states that the residential customer and sales equations performed well. In this regard, please, discuss why the Company believes that a 4 percent variance in residential sales for the year 2001 is a good performance.

Company Response:

The Company is not necessarily applying a technical standard when noting that the equations performed "well". The judgment was made in light of the entire backcast results. The Company was satisfied that the overall backcast results for residential customers and sales produced average absolute variances of only 0.4% and 1.9%, respectively, over the 5 year backcast period. In addition, the average variance when the sign of the annual variances is taken into consideration (i.e. positive and negative variances are allowed to offset each other) is only 0.2% and 1.6% for residential customers and residential sales, respectively.

Person Responsible: Robert B. Hevert

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DTE-1-21 Please refer to page A-19 and page A-20 of the Appendix of the Company's filing. In this regard, please:

- (a) Does "N" stand for the number of observation?
- (b) Discuss why the Company ran the small C&I customer and small C&I sales equations using only 19 observations instead of using the entire historical period (1983-2002) (see page 28 of the Company's filing). Please list the 19 years of the observations.

Company Response:

- (a) The "N" on all pages of regression output contained in the Appendix does in fact stand for the number of observations used in the estimation.
- (b) As discussed in the response to DTE 1-1, the typical historical data set was 19 years (1983-2001) and this entire data set was used for the small commercial and industrial customer and volume equations.

Person Responsible: Robert B. Hevert

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DTE-1-22 Please refer to the small commercial and industrial customer regression (see page 29-30 of the Company's filing). In this regard,

- (a) define the variable "HHOLD" and state the differences between this variable and the variable "HSTOCK"?
- (b) formulate the null and alternative hypotheses for the autocorrelation test and state the numbers of observations (n), the number of regressors (k):
- (c) draw a line containing the extreme points values of the Durbin-Watson ("DW") (0,4), and the critical values (lower and upper bounds) of DW test; Please mark on the line the rejection, fail to reject, and inconclusive areas of the null hypothesis;
- (d) given the DW-statistics of 1.431 (see page 30 of the Company's filing) and the Company's answer to part b), and part c) above, draw the conclusions from the test;
- (e) does the Company still believe that the DW test allows the Company to reject the presence of serial autocorrelation? Please explain.

Company Response:

- (a) Pursuant to discussions with Global Insights, HHOLD is a population measure and represents the number of households. Housing stock is not a population measure but is a measure of the number of physical housing units.
- (b) H_0 : No first order correlation amongst residuals
 H_a : First order correlation amongst residuals
 $n = 19$
 $k = 2$

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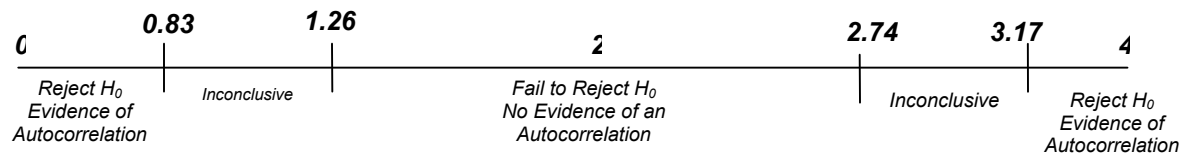
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DTE 1-22

Company Response (cont.):

(c)



- (d) The Durbin-Watson result of 1.431 clearly falls in the fail to reject the null hypothesis region.
- (e) Yes, the Company believes that the results of the Durbin-Watson test do not indicate the presence of an autocorrelation in the residuals.

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DTE-1-23 Please refer to the small commercial and industrial forecast results (see page 32, Table 2.16 of the Company's filing). The Company states that the equations are capable of predicting number of customers and sales reasonably well. In this regard, please:

- (a) Discuss why the Company believes that a 4.3 percent variance in small C&I customer for the year 1998 is a good performance;
- (b) Discuss why the Company believes that a 6.1 percent variance in small C&I sales for the year 2001 is good performance.

Company Response:

- (a) The Company is not necessarily applying a technical standard when observing that these equations performed "reasonably well". The judgment was made in light of the entire backcast results. The Company was satisfied that the overall backcast results for small commercial and industrial customers produced an average absolute variance of 2.6% over the 5 year backcast period. In addition, the average variance when the sign of the annual variances is taken into consideration (i.e. positive and negative variances are allowed to offset each other) is only 0.16%.
- (b) Again, the judgment was made in light of the entire backcast results. The Company was satisfied that the overall backcast results for small commercial and industrial sales produced an average absolute variance of 2.1% over the 5 year backcast period. In addition, the average variance when the sign of the annual variances is taken into consideration (i.e. positive and negative variances are allowed to offset each other) is only 0.8%.

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DTE-1-24 Please refer to page A-21 and page A-22 of the Appendix of the Company's filing. In this regard, please:

- (a) Does "N" stand for the number of observation?
- (b) Discuss why the Company ran the medium C&I customer and medium C&I sales equations using only 19 observations instead of using the entire historical period (1983-2002) (see page 35 of the Company's filing). Please list the 19 years of the observations.

Company Response:

- (a) The "N" on all pages of regression output contained in the Appendix does in fact stand for the number of observations used in the estimation.
- (b) As discussed in the response to DTE 1-1, the typical historical data set was 19 years (1983-2001) and this entire data set was used for the medium commercial and industrial customer equation. In the case of the medium commercial and industrial sales equation the complete historical data set of 19 years was shortened by one observation since a lagged independent variable was used in this equation. The resulting analysis utilized the 18 years from 1984-2001.

Person Responsible: Robert B. Hevert

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DTE-1-25 The Company states that the data inconsistency was corrected in the development of the medium C&I customer equation by using a dummy variable (see page 34 of the Company's filing). Please, specify the values the dummy variable takes over the entire time series.

Company Response:

DUM01 is 0 except in 2001 where it takes on a value of 1.

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- DTE-1-28 Please refer to the medium commercial and industrial forecast results (see pages 38-39-40, Table 2.24 of the Company's filing). The Company states that the medium C&I equations predict customers and volumes adequately. In this regard, please:
- (a) Discuss why the Company believes that a (5.9) percent variance in medium C&I customer for the year 1998 is a good performance;
 - (b) Discuss why the Company believes that a (5.7) percent variance in medium C&I sales for the year 1999 is good performance.

Company Response:

- (a) NOTE: Please see page 39 of the report. The -5.9% performance in 1998 was for medium commercial and industrial sales (not customers). The Company is not necessarily applying a technical standard when observing that these equations performed "adequately". The judgment was made in light of the entire backcast results. The Company was satisfied that the overall backcast results for medium commercial and industrial sales produced an average absolute variance of 3.8% over the 5 year backcast period. In addition, the average variance when the sign of the annual variances is taken into consideration (i.e. positive and negative variances are allowed to offset each other) is only -0.82% for medium commercial and industrial sales.
- (b) Please see response to DTE 1-28 (a)

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DTE-1-31 The Durbin-Watson test is an invalid test for detecting serial autocorrelation in the residuals when lagged explanatory variables are being used in the regression. In this regard, please:

- (a) run again the medium C&I sales equation (see p. 38 of the Company's filing);
- (b) run again the large C&I customer equation (see p. 43 of the Company's filing);
- (c) run again the large C&I sales equation (see p. 45 of the Company's filing);
- (d) test for serial autocorrelation in each of the above mentioned equations using appropriate test (e. g. h-statistics); please specify the null hypotheses, degrees of freedom and draw the conclusion from the test;
- (e) correct for autocorrelation if necessary;
- (f) update Table 2.24, Table 2.25, Table 2.26, Table 2.31, Table 2.32, Table 2.33, Table 2.34, Table 2.35, Table 2.36, Table 2.37, Table 2.38

Company Response:

This question was withdrawn.

Person Responsible: N/A

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DTE-1-32 Please refer to page A-23 and page A-24 of the Appendix of the Company's filing. In this regard,

- (a) Does "N" stand for the number of observation?
- (b) Discuss why the Company ran the large C&I customer and large C&I sales equations using only 19 observations instead of using the entire historical period (1983-2002) (see page 41 of the Company's filing). Please state to which years the 19 observations correspond.

Company Response:

- (a) The "N" on all pages of regression output contained in the Appendix does in fact stand for the number of observations used in the estimation.
- (b) The large commercial and industrial customer and large commercial and industrial sales equations were run with 18 observations. As discussed in DTE 1-1, the typical historical data set was 19 years (1983-2001). The complete historical data set of 19 years was shortened by one observation since a lagged independent variable was used in each of the large commercial and industrial customer and sales equations. The resulting analysis utilized data from 1984-2001.

Person Responsible: Robert B. Hevert

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
Docket No. D.T.E. 03-52**

**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

- DTE-1-33 The Company indicates that it developed the total company throughput forecast by analyzing the historic relationship between end use consumption and total company throughput requirements and that the resultant analysis was utilized to forecast total company throughput requirement (see page 49 of the Company's filing). In this regard, please:
- (a) provide the historic relationship between end use consumption and total company throughput requirement in a separate table;
 - (b) discuss in detail how the Company used that historic relationship to project the firm throughput over the period 2003-2007;
 - (c) discuss why the Company does not present any "Company Use" (see page A-9 of the Appendix of the Company's filing).

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
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**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-33

Company Response:

- (a) Please see Table DTE 1-33(a) below.

Table DTE 1-33(a)

Year	Total Firm Sales	Total Firm Throughput
1983	1,969,081	2,264,799
1984	2,116,900	2,308,408
1985	2,146,041	2,382,422
1986	2,101,932	2,301,293
1987	2,089,937	2,246,062
1988	2,194,820	2,386,083
1989	2,231,887	2,331,601
1990	2,122,095	2,128,701
1991	2,039,378	2,175,706
1992	2,328,104	2,371,888
1993	2,292,350	2,385,726
1994	2,305,683	2,378,027
1995	2,230,265	2,354,512
1996	2,450,760	2,445,314
1997	2,371,535	2,481,135
1998	2,202,714	2,208,798
1999	2,218,538	2,341,621
2000	2,399,354	2,540,061
2001	2,306,675	2,319,480

- (b) Please see response to DTE 1-4.

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

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DTE-1-33

Company Response (cont.):

- (c) Similar to the approach utilized in FG&E's most recent integrated gas resource plan filings, the 2003 Integrated Gas Resource Plan addressed the Company Use and Unaccounted For on a percentage basis and therefore did not forecast it in MMBtus. As such, historical MMBtu data and forecasts for Company Use and Unaccounted For was not presented on page A-9.

Person Responsible: Robert B. Hevert

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
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**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-35 Please refer to page A-26 of the Appendix of the Company's filing. Please explain the negative total and G-53 customer class transportation volumes for March 2002.

Company Response:

The negative values shown on page A-26 for March 2002 are the result of an accounting error and subsequent correction. Firm transportation sales in January 2002 were largely overstated and were offset in March 2002 by a negative entry. This correction to billing data does not impact the analysis prepared for this filing because the forecast is based on annual sales volumes, so the offsetting entries were included. Also, the regression equations were developed using a sample period that ended with 2001 data. Please see response to DTE-1-1.

Person Responsible: Robert B. Hevert

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
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**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-36 Please refer to p. A-7 of the Appendix of the Company's filing. Please explain why "Interruptible" is not applicable.

Company Response:

Similar to the approach utilized in FG&E's most recent integrated gas resource plant filings, the 2003 Integrated Gas Resource Plan provides forecasts and supply needs of firm customers. As such, historical data and forecasts for interruptible customers were not included in this filing.

Person Responsible: Robert B. Hevert

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
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**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-38 Please describe the level of training, technical competence, and industry experience of each Commonwealth Energy Advisor' staff who was directly involved in the preparation of the econometric model design and forecast results Report.

Company Response:

Please see the attached résumés.

Person Responsible: Robert B. Hevert

Robert B. Hevert, CFA
President

Mr. Hevert is an economic and financial consultant with broad experience in the energy industry. He has an extensive background in the areas of corporate strategic planning, energy market assessment, corporate finance, mergers, and acquisitions, asset-based transactions, asset and business unit valuation, market entry strategies, strategic alliances, project development, feasibility and due diligence analyses. Mr. Hevert has significant management experience with both operating and professional services companies.

REPRESENTATIVE PROJECT EXPERIENCE

Financial and Economic Advisory Services

Retained by numerous leading energy companies and financial institutions throughout North America to provide services relating to the strategic evaluation, acquisition, sale or development of a variety of regulated and non-regulated enterprises. Specific services have included: developing strategic and financial analyses and managing multi-faceted due diligence reviews of proposed corporate M&A counter-parties; developing, screening and recommending potential M&A transactions and facilitating discussions between senior utility executives regarding transaction strategy and structure; performing valuation analyses and financial due diligence reviews of electric generation projects, retail marketing companies, and wholesale trading entities in support of significant M&A transactions.

Specific divestiture-related services have included advising both buy and sell-side clients in transactions for physical and contractual electric generation resources. Sell-side services have included: development and implementation of key aspects of asset divestiture programs such as marketing, offering memorandum development, development of transaction terms and conditions, bid process management, bid evaluation, negotiations, and regulatory approval process. Buy-side services have included comprehensive asset screening, selection, valuation and due diligence reviews. Both buy and sell-side services have included the use of sophisticated asset valuation techniques, and the development and delivery of fairness opinions.

Specific corporate finance experience while a Vice President with Bay State Gas included: negotiation, placement and closing of both private and public long-term debt, preferred and common equity; structured and project financing; corporate cash management; financial analysis, planning and forecasting; and various aspects of investor relations.

Representative non-confidential clients have included:

- Conectiv generation asset divestiture
- Eastern Utilities Associates (prior to acquisition by National Grid, PLC) generation asset divestiture
- Niagara Mohawk – sale of Niagara Mohawk Energy
- Potomac Electric Company generation asset divestiture

Representative confidential engagements have included:

- Buy-side valuation and assessment of merchant generation assets in Midwestern US
- Buy-side due diligence and valuation of wholesale energy marketing companies in Eastern and Midwestern US
- Buy-side due diligence of natural gas distribution assets in Northeastern US
- Financial feasibility study of natural gas pipeline in upper Midwestern US
- Financial valuation of natural gas pipeline in Southwestern US

Regulatory Analysis and Ratemaking

On behalf of electric, natural gas and combination utilities throughout North America, provided services relating to energy industry restructuring including merchant function exit, residual energy supply obligations, and stranded cost assessment and recovery. Also performed rate of return and cost of service analyses for municipally owned gas and electric utilities. Specific services provided include: performing strategic review and development of merchant function exit strategies including analysis of provider of last resort obligations in both electric and gas markets; and developing value optimizing strategies for physical generation assets.

Representative engagements have included:

- Performing rate of return analyses for use in cost of service analyses on behalf of municipally owned gas and electric utilities in the Southeastern and Midwestern US
- Developing merchant function exit strategies for Northeastern US natural gas distribution companies
- Developing regulatory and ratemaking strategy for mergers including several Northeastern natural gas distribution companies

Litigation Support and Expert Testimony

Provided expert testimony and support of litigation in various regulatory proceedings on a variety of energy and economic issues including the proposed transfer of power purchase agreements, procurement of residual service electric supply, the legal separation of generation assets, and specific financing transactions. Services provided also included collaborating with counsel, business and technical staff to develop litigation strategies, preparing and reviewing discovery and briefing materials, preparing presentation materials and participating in technical sessions with regulators and intervenors.

Energy Market Assessment

Retained by numerous leading energy companies and financial institutions nationwide to manage or provide assessments of regional energy markets throughout the US and Canada. Such assessments have included development of electric and natural gas price forecasts, analysis of generation project entry and exit scenarios, assessment of natural gas and electric transmission infrastructure, market structure and regulatory situation analysis, and assessment of competitive position. Market assessment engagements typically have been used as integral elements of business unit or asset-specific strategic plans or valuation analyses.

Representative engagements have included:

- Managing assessments of the NYPOOL, NEPOOL and PJM markets for major North American energy companies considering entering or expanding their presence in those markets
- Assessment of ECAR, MAPP, MAIN and SPP markets for a large US integrated utility considering acquisition of additional electric generation assets
- Assessment of natural gas pipeline and storage capacity in the SERC and FRCC markets for a major international energy company

Resource Procurement, Contracting and Analysis

Assisted various clients in evaluating alternatives for acquiring fuel and power supplies, including the development and negotiation of energy contracts and tolling agreements. Assignments also have included developing generation resource optimization strategies. Provided advice and analyses of transition service power supply contracts in the context of both physical and contractual generation resource divestiture transactions.

Business Strategy and Operations

Retained by numerous leading North American energy companies and financial institutions nationwide to provide services relating to the development of strategic plans and planning processes for both regulated and non-regulated enterprises. Specific services provided include: developing and implementing electric generation strategies and business process redesign initiatives; developing market entry strategies for retail and wholesale businesses including assessment of asset-based marketing and trading strategies; and facilitating executive level strategic planning retreats. As Vice President, Energy Ventures, of Bay State was responsible for the company's strategic planning and business development processes, played an integral role in developing the company's non-regulated marketing affiliate, EnergyUSA, and managed the company's non-regulated investments, partnerships and strategic alliances.

Representative engagements have included:

- Developing and facilitating executive level strategic planning retreats for Northeastern natural gas distribution companies
- Developing organization and business process redesign plans for municipally owned gas/electric/water utility in the Southeastern US
- Reviewing and revising corporate merchant generation business plans for Canadian and US integrated utilities
- Advising client personnel in development of business unit level strategic plans for various natural gas distribution companies

PROFESSIONAL HISTORY

Commonwealth Energy Advisors, Inc. (2002 – Present)

President

Navigant Consulting, Inc. (1997 - 2001)

Managing Director (2000 – 2001)

Director (1998 – 2000)

Vice President, REED Consulting Group (1997 – 1998)

REED Consulting Group (1997)
Vice President

Bay State Gas Company (1987 - 1997)
Vice President, Energy Ventures and Assistant Treasurer

Boston College (1986 - 1987)
Financial Analyst

General Telephone Company of the South (1984 - 1986)
Revenue Requirements Analyst

EDUCATION

M.B.A., University of Massachusetts, Amherst, 1984
B.S., Business and Economics, University of Delaware, 1982

DESIGNATIONS AND PROFESSIONAL AFFILIATIONS

Chartered Financial Analyst, 1991
Association for Investment Management and Research
Boston Security Analyst Society

PUBLICATIONS/PRESENTATIONS

Has made numerous presentations throughout the United States and Canada on several topics including:

- Generation Asset Valuation and the Use of Real Options
- Retail and Wholesale Market Entry Strategies
- The Use Strategic Alliances in Restructured Energy Markets
- Gas Supply and Pipeline Infrastructure in the Northeast Energy Markets
- Nuclear Asset Valuation and the Divestiture Process

AVAILABLE UPON REQUEST

Extensive client and project listings, and specific references.

James M. Stephens
Vice President

Mr. Stephens is an economic and business consultant with broad experience in the energy industry. He has an extensive background in the areas of energy market assessment, resource planning and procurement, mergers and acquisitions, asset-based transactions, asset and business unit valuation, market entry strategies, strategic alliances, project development, feasibility and due diligence analyses. In addition to his consulting experience, Mr. Stephens served as President of a start-up retail energy marketing company, where he had responsibility for financial performance, developing and executing strategy and participation in regulatory initiatives and proceedings. Also, Mr. Stephens, as Director of Gas Supply Planning and Acquisition, has developed and implemented natural gas acquisition strategies that included: demand modeling, portfolio analysis and procurement activities. Finally, Mr. Stephens has significant management experience with both operating and professional services companies.

REPRESENTATIVE PROJECT EXPERIENCE

Financial and Economic Advisory Services

Involved in the sale or evaluation of several non-regulated energy companies including wholesale and retail energy marketing companies, on-line energy brokers and energy services' companies. Specific services provided include: business unit evaluation, development of sale materials, marketing of transaction, bid evaluation and negotiation support. These engagements have resulted in completed sales or strategy changes.

Representative engagements have included:

- Sale of Niagara Mohawk Power Corporation's non-regulated energy marketing affiliate
- Sale of Providence Energy Corporation's non-regulated marketing affiliate
- Performed an independent valuation of an on-line energy broker on behalf of an investor

Regulatory Analysis and Support

On behalf of electric, natural gas and combination utilities throughout North America, provided services relating to energy industry restructuring including merchant function exit, residual energy supply obligations, stranded cost assessment and recovery, and management prudence. Specific services provided include: performing strategic review and development of merchant function exit strategies including analysis of provider of last resort obligations in both electric and gas markets, developing new service offerings for third party marketers, and provide litigation support to utilities during prudence investigations.

Representative engagements have included:

- On behalf of a midwest utility, developed and implemented a third party transportation program
- On behalf of a gas utility reviewed supply procurement practices and developed prudence testimony
- Assisted an LDC consortium in their review of pipeline cost allocations procedures and rate design methodologies. Also supported settlement discussions.

Energy Procurement

Directed and participated in the review of several energy procurement projects including demand modeling, portfolio review/optimization, procurement strategies and associated cost structures.

Representative engagements/experience have included:

- On behalf of a natural gas utility developed a demand forecast and supported that forecast in regulatory proceedings
- For a combination utility, assisted in the development and support of gas supply planning standards and the associated cost of these standards
- On behalf of a financial institution, reviewed the competitiveness of a storage project investment and quantified the impact of various new projects on the storage project financial performance

Energy Market Assessment

Retained by numerous leading energy companies to manage or provide assessments of regional energy markets throughout the US and Canada. Such assessments have included development of electric and natural gas price forecasts, analysis of generation project entry and exit scenarios, assessment of natural gas and electric transmission infrastructure, market structure and regulatory situation analysis, and assessment of competitive position. Market assessment engagements typically have been used as integral elements of business unit or asset-specific strategic plans or valuation analyses.

Representative engagements have included:

- Managing the assessment of the FRCC market for an international energy company considering asset development opportunities in Florida
- Assessing the northeast US and eastern Canada energy markets for an energy company considering a pipeline expansion
- Reviewing energy contract practices and pricing mechanisms to support a contract arbitration process

Business Strategy and Operations

Retained by numerous leading North American energy companies to provide services relating to the development of strategic plans and planning processes for both regulated and non-regulated enterprises. Specific services provided include: developing and implementing electric generation strategies and business process redesign initiatives; and developing market entry strategies for retail and wholesale businesses including assessment of asset-based marketing and trading strategies.

Representative engagements have included:

- Assisted a northeast LDC develop a business plan for its non-regulated energy business
 - Evaluated strategic alliances for a New England LDC that was entering the fuel oil business
 - Developed new service offerings including firm transportation and stand-by service for a mid-Atlantic utility
 - Managed the re-engineering of a large midwest LDC's gas supply procurement process
 - Managed the re-engineering of a mid-Atlantic wholesale energy marketing company's gas operations
-

PROFESSIONAL HISTORY

Commonwealth Energy Advisors, Inc. (2002 – Present)
Vice President

Navigant Consulting, Inc. (2000 - 2001)
Director – Energy Market Assessment Practice Area

Providence Energy Services (1997-2000)
President, (1998 – 2000)
President, Providence-Southern (1997 – 1998)

REED Consulting Group (1994 - 1997)
Assistant Vice President

Colonial Gas Company (1991 - 1994)
Director, Gas Supply Planning and Acquisition (1993 – 1994)
Manager, Gas Supply (1991 – 1993)

Boston Gas Company (1987 - 1991)
Senior Gas Supply Analyst

EDUCATION

M.B.A., Bentley College, 1991
B.S., Bentley College, 1987

DESIGNATIONS AND PROFESSIONAL AFFILIATIONS

Member of the AGA
Member to the APGA
Member of the New England Gas Association

AVAILABLE UPON REQUEST

Extensive client and project listings, and specific references

Ann E. Bulkley
Project Manager

A Project Manager with a strong foundation in economic principles, finance, regulatory policies and quantitative forecasting. Provides management and technical support on projects involving valuation, merger and acquisition due diligence, restructuring, and regulatory and litigation support.

REPRESENTATIVE PROJECT EXPERIENCE

Strategy

Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.

Valuation

Significant experience utilizing numerous valuation methodologies to value generation assets for strategic planning, tax, financing and other purposes. Methodologies include traditional discounted cash flow, Monte Carlo risk analysis, market analysis and replacement cost. Prepared expert reports, testimony and certifications for use in regulatory and state judicial forums.

Prepared a valuation of numerous generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis and a risk analysis.

Prepared a valuation of numerous purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and VAR for the selling utility.

Prepared a valuation of several FirstEnergy generating facilities using the income, cost, and comparable sales approaches as well as risk analysis. Prepared an independent report.

Prepared a valuation of Northern Indiana Public Service Company's generation, transmission and distribution assets for a recent electric rate proceeding. Valuation approaches used in this project included income, cost and comparable sales approaches.

Unbundling

Significant experience working with LDCs to unbundle regulated utility sales service into its unregulated components as part of the companies' overall restructuring plans. Prepared testimony supporting various LDC's unbundling proposals. Provided expert testimony on behalf of a gas utility supporting unbundling proposals, ancillary services and associated ratemaking and implementation issues. Acted as an advisor to state agencies regarding natural gas restructuring issues. Assisted in the development of state policy decisions with regards to gas industry unbundling, as part of a collaborative effort, to identify and resolve the critical issues surrounding unbundling. Advised on the development of regulations and terms and conditions necessary to implement retail choice.

Cost Allocation/Rate Design

Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Analyzed and evaluated rate application. Attended hearings and conducted investigation of rate application for regulatory staff. Prepared, supported and defended recommendations for revenue requirements and rates for the company. Developed rates for gas utility for transportation program and ancillary services.

Gas Supply

Advised LDCs with regards to outsourcing of their gas supply management function. Performed a statistical analysis to determine the value to the LDC of several gas supply management proposals. Evaluation included an analysis of the financial implications of the terms and conditions of each proposal under varying supply, pricing and demand scenarios.

Performance-Based Ratemaking

Analyzed the implementation of performance-based ratemaking in the electric industry and in the corporate strategies of private sector organizations. Evaluated the effect of various performance-based ratemaking mechanisms in earnings and corporate strategies for two electric utilities. Analyzed a performance-based ratemaking proposal for the regulatory agency to determine the viability of the program and the impact on ratepayers.

Reengineering and Restructuring

Acted as an advisor to state regulators with regards to the unbundling of the natural gas industry. Worked with utilities, marketers and state agencies, in a collaborative forum, to clearly identify the underlying cost structure for each customer class and to evaluate the impact that alternative approaches retail choice would have on each customer segment. Worked with the Collaborative to identify the appropriate approach to the retail choice offering and develop the terms and conditions for the program.

Participated in the reengineering of a gas supply department of a major midwestern gas distribution company. Interviewed staff to determine present work allocation and workflow. Performed gap and duplicative process analyses. Designed ideal workflow for new transportation service offerings. Created job descriptions. Analyzed present operations in conjunction with ideal workflow to create efficiencies. Analyzed and capsulated proposals for gas management system and provided recommendations.

Assisted in the development of an IS system to accommodate transportation services. Utilized detailed workflow diagrams to educate IS department on the operations area needs from the systems.

Generation Divestiture

Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract. Assisted clients in implementing generation divestiture programs. Acted as a liaison between the bidders and the seller in the divestiture process. Provided documentation, detailed due diligence and marketing support. Participated in site tour development, training and implementation.

Joint Ventures/Alliances/ Mergers and Acquisitions

Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed, and evaluated potential alliance candidates based on company-established criteria for several LDAC's and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support of several merger cases and participated in the regulatory process to obtain approval for these mergers.

Economic Analysis

Analyzed various industries, concentrating primarily in electronics. Conducted research on high technology markets for trade publications. Forecasted investment levels, product shipments, and business and consumer spending levels for the electronics, transportation, and printing industries. Forecasting methodology based on time-series-business cycle approach. Prepared electronics and logistics industry outlooks for advertising sales force and external clients.

PROFESSIONAL HISTORY

Commonwealth Energy Advisors, Inc. (2002 – Present)

Project Manager

Navigant Consulting, Inc. (1995 – 2002)

Senior Engagement Manager

Cahners Publishing Company (1995)

Economist

EDUCATION

M.A., Economics, Boston University, 1995

B.A., Economics and Finance, Simmons College, 1991

Melissa F. Bartos
Senior Consultant

A senior consultant with a strong mathematical and computer background. Expertise in complex spreadsheet modeling and developing databases for data management and analysis. Experienced in programming using Visual Basic for Applications (VBA) in Excel in order to create, design, redesign and synthesize various models and databases. Also researches regulatory issues, performs economic analysis, and assists in writing reports and testimony.

REPRESENTATIVE PROJECT EXPERIENCE

Modeling and Analysis

Designed and developed numerous models including an optimization model to test various electricity send-out strategies based on market prices and available transmission capacity; a model to compare current and projected pipeline capacity with forecast demand in order to determine operational implications and possible strategic initiatives for a Northeast pipeline; risk management models to evaluate utility exposure under several rate strategies; and a model to evaluate gas supply outsourcing proposals received by a New England utility using the Monte Carlo simulation process to test the proposals under various risk scenarios including hub price, basis differential, and customer demand changes, in order to determine which would be the least cost and least risk option.

Valuation

Prepared valuations of numerous generation facilities, supply portfolios, and PPAs. Approaches utilized include the income (DCF), cost, and comparable sales approaches. Specific circumstances have included valuing the benefit of fuel switching capabilities as well as Monte-Carlo risk analysis to take into consideration uncertain operating conditions and market prices. Also assisted in the preparation of valuation reports and testimony. Sample assignments include valuing numerous generation assets to be used for strategic planning purposes; conducting a valuation of numerous purchase power contracts, analyzing bids from potential acquirers, assessing credit issues, and analyzing VAR for the selling utility in a sale of purchase power contracts; and valuing Northern Indiana Public Service Company's generation, transmission and distribution assets for a recent rate proceeding.

Cost-of-Service and Rate Design

Designed and built a cost-of-service model used company-wide in various cost-of-service projects. Also redesigned cost-of-service and rate design models for a West Coast municipal electric company and a major East Coast electric utility. Prepared an extended cost-of-service study to provide information about unbundling revenue-cycle services. Manipulated and enhanced a rate design model in order to explore alternatives for recovering post-divestiture stranded costs through CTC charges in preparation for a regulatory filing and to investigate seasonal market credit options.

Assisted with the preparation of testimony in support of Southern Connecticut Gas Company's unbundling filing. Prepared a gas-only cost-of-service study. Assisted with development of transportation programs, allocation of costs, and development of rates. Analyzed customer migration and assisted with the preparation of interrogatories. Drafted testimony in support of the LDC's application for a change in its pricing structure.

Electric Reliability

Designed and developed a customized database for analyzing electric distribution reliability which includes functionality to manage summarizing standard data, flexibility to handle customized detailed analysis, and the ability to address data integrity issues. Performed data analysis on outage history, physical attributes of equipment, and historical spending in order to provide a strategic asset management approach to reliability. This included presenting recommendations for targeted spending of distribution reliability funds and facilitating one-day seminar designed to discuss reliability issues with over 70 client employees. Assisted with an electric reliability assessment for multiple utilities including analyzing outage data in order to develop relationships between expenditures and reliability improvement.

Market Power Analysis

Performed market power analysis in support of the proposed merger between Boston Edison Company and Commonwealth Energy in accordance with the FERC's guidelines regarding merger applications. Evaluated the applicants' uncommitted capacity, total capacity, economic capacity, and available economic capacity. Other market power analysis experience includes preparing studies in support of KeySpan's purchase of Consolidated Edison's Ravenswood facility in New York City, a market based rate application for a cogeneration facility in New York, and in preparation of the sale of PEPCo's generation assets.

Research

Conducted extensive research in support of expert reports and testimony. Research topics have included gas unbundling topics, including exiting the merchant function, supplier of last resort, after merchant service, balancing, nominations, and cashouts; pipeline rate cases to determine business risks associated with rate of return on equity; standard offer rate provisions for utilities in the Northeast; the regulatory treatment of divestiture proceeds; status and details of electric restructuring in various locations; various generation asset transactions; industry mergers and acquisitions; and potential alliance candidates for LDCs.

PROFESSIONAL HISTORY

Commonwealth Energy Advisors, Inc. (2002 – Present)

Senior Consultant

Navigant Consulting, Inc. (1996 – 2002)

Senior Consultant

EDUCATION

M.S., Mathematics (Statistics), University of Massachusetts at Lowell, Degree in Progress

B.A., Mathematics and Psychology, Computer Science minor, College of the Holy Cross, *magna cum laude*, 1998

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
Docket No. D.T.E. 03-52**

**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-46 For each commodity contract in the Company's portfolio that expires during the forecast period, please discuss in specific terms the Company's plans for renewal, termination, or replacement.

Company Response:

Each commodity contract that the Company now has will terminate within one year from commencement of the contract. Prior to the termination, the Company will issue an RFP to replace each supply contract, seeking as much nomination flexibility as possible to meet changing local market conditions. The flexibility will result in the ability for the Company to nominate a baseload amount for the month or season, and the ability to nominate up to any amount to fully utilize our TGP transportation contracts. This will provide FGE with a reliable, flexible and cost effective way to serve its' firm customers.

Person Responsible: Richard MacInnis

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
Docket No. D.T.E. 03-52**

**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-48 For each capacity contract in the Company's portfolio that expires during the forecast period, please provide the Company's plans for renewal, consolidation, or termination.

Company Response:

Please refer to the Companies Integrated Gas Resource Plan, pages 71 through 74 Section C. 4, Pipeline Transport Services.

Person Responsible: Richard MacInnis

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
Docket No. D.T.E. 03-52**

**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-49 Please update the G-22 tables in the Company's filing to include the total volumes available to the Company (MDQs), including pipeline and local production, under the Company's existing contractual agreements.

Company Response:

Please refer to attachment DTE 1-49
Page 1 of 3 - Normal Winter
Page 2 of 3 - Normal Summer
Page 3 of 3 - Design Winter

Person Responsible: Richard MacInnis

Table 3.4
Comparison of Resources and Requirements (Table G-22N)
Resource Extension Option Scenario

Normal Winter (MMbtu)										
	<u>2002-03*</u>	<u>2002-03</u>	<u>2003-04</u>	<u>2004-05</u>	<u>2004-05</u>	<u>2005-06</u>	<u>2005-06</u>	<u>2006-07</u>	<u>2006-07</u>	<u>2006-07</u>
Firm Sendout	1,807,296		1,617,081		1,621,157		1,625,234		1,628,202	
Storage Refill	0		0		0		0		0	
Total	1,807,296		1,617,081		1,621,157		1,625,234		1,628,202	
Resources										
	Available	Available	Available	Available	Available	Available	Available	Available	Available	Available
	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity	Capacity
Boundary	40,050	40,050	0		0		0		0	
long haul supply 1	616,568	639,938	604,000	639,938	544,808	544,808	544,808	544,808	544,808	544,808
long haul supply 2	398,802	604,000	226,500	271,960	285,692	523,366	285,692	523,366	285,692	523,366
Spot market	29,222		66,626		83,157		87,234		90,202	
Zone 6 Spot	80,815	83,050	151,000	151,000	151,000	244,318	151,000	244,318	151,000	244,318
Storage	302,455	375,053	302,455	323,703	290,000	323,703	290,000	323,703	290,000	323,703
Zone 4 Supply	110,140	226,500	226,500	333,559	226,500	333,559	226,500	333,559	226,500	333,559
Peaking[1]	101,476	123,000	40,000	123,000	40,000	125,000	40,000	125,000	40,000	125,000
Incremental Market Purchases	127,768		0		0		0		0	
Total	1,807,296	2,091,591	1,617,081	1,843,160	1,621,157	2,094,754	1,625,234	2,094,754	1,628,202	2,094,754

[1] Available capacity here is the total peaking contracted

*Using actual Winter 2002-03 Data

Table 3.4
Comparison of Resources and Requirements (Table G-22N)
Resource Extension Option Scenario

Normal Summer (MMBtu)										
	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>2006</u>	<u>2006</u>	<u>2007</u>	<u>2007</u>
Firm Sendout	754,358		755,431		756,184		757,117		757,579	
Storage Refill	351,350		295,000		295,000		295,000		295,000	
Total	1,105,708		1,050,431		1,051,184		1,052,117		1,052,579	
Resources		Available		Available		Available		Available		Available
		Capacity		Capacity		Capacity		Capacity		Capacity
Boundary	0		0		0		0		0	
long haul supply 1	449,400	856,000	449,400	741,724	449,400	741,724	449,400	741,724	449,400	741,724
long haul supply 2	428,000	906,076	428,000	791,800	428,000	791,800	428,000	791,800	428,000	791,800
Spot market	0		0		0		0		0	
Zone 6 Spot	0	117,700	0	231,976	0	346,252	0	346,252	0	346,252
Storage	0		0		0		0		0	
Zone 4 Supply	107,000	1,128,422	107,000	1,128,422	107,000	1,128,422	107,000	1,128,422	107,000	1,128,422
Peaking	0		0		0		0		0	
Incremental Market Purchases	121,308		66,031		66,784		67,717		68,179	
Total	1,105,708		1,050,431		1,051,184		1,052,117		1,052,579	

Table 3.5
Comparison of Resources and Requirements (Table G-22D)
Resource Extension Option Scenario

Design Cold Winter (MMbtu)										
	<u>2002-03*</u>	<u>2002-03</u>	<u>2003-04</u>	<u>2003-04</u>	<u>2004-05</u>	<u>2004-05</u>	<u>2005-06</u>	<u>2005-06</u>	<u>2006-07</u>	<u>2006-07</u>
Firm Sendout	1,807,296		1,735,097		1,739,558		1,744,019		1,747,267	
Storage Refill	0		0		0		0		0	
Total	1,807,296		1,735,097		1,739,558		1,744,019		1,747,267	
Resources	Available Capacity		Available Capacity		Available Capacity		Available Capacity		Available Capacity	
Boundary	40,050	40,050	0	0	0	0	0	0	0	0
long haul supply 1	616,568	639,938	604,000	639,938	544,808	544,808	544,808	544,808	544,808	544,808
long haul supply 2	398,802	604,000	226,500	271,960	285,692	523,366	285,692	523,366	285,692	523,366
Spot market	29,222	0	109,642	0	126,558	0	131,019	0	134,267	0
Zone 6 Spot	80,815	83,050	151,000	151,000	151,000	244,318	151,000	244,318	151,000	244,318
Storage	302,455	375,053	302,455	323,703	290,000	323,703	290,000	323,703	290,000	323,703
Zone 4 Supply	110,140	226,500	226,500	333,559	226,500	333,559	226,500	333,559	226,500	333,559
Peaking[1]	101,476	123,000	115,000	123,000	115,000	125,000	115,000	125,000	115,000	125,000
Incremental Market Purchases	127,768	0	0		0		0		0	
Total	1,807,296	2,091,591	1,735,097	1,843,160	1,739,558	2,094,754	1,744,019	2,094,754	1,747,267	2,094,754

[1] Available capacity here is the total peaking contracted

* Using actual winter Data

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

**FITCHBURG GAS AND ELECTRIC LIGHT COMPANY
2003 INTEGRATED GAS RESOURCE PLAN
Docket No. D.T.E. 03-52**

**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-50 Please update Table G-23 in the Company's filing to include the total volumes available to the Company (MDQs), including pipeline and local production, under the Company's existing contractual agreements.

Company Response:

Comparison of Resources and Requirements (Table G-23)
Design Day (1 in 30) Firm Sendout

Year	2003	2004	2005	2006	2007
Mmbtu	22,098	22,220	22,342	22,464	22,586
Resources					
TGP Long haul transportation	8234	8234	7166	7166	7166
Total Long haul transport available	8179	8234	7166	7166	7166
Boundary	534				
Boundary Ended Jan 14th, 2003	497				
Zone 6 Transport	550	1084	1618	1618	1618
Total Zone 6 Transport available	510	1084	1618	1618	1618
Storage	4273	4273	3807	3807	3807
Total Storage available	4958	5273	4807	4807	4807
Zone 4 Transport			466	466	466
Total Zone 4 Transport available	5273	5273	5273	5273	5273
Peaking	7507	7629	8285	8407	8529
Total Peaking available	14400	14400	14400	14400	14400

Person Responsible: Richard MacInnis

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2003 INTEGRATED GAS RESOURCE PLAN
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**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-53 Please identify any locations where the Company's distribution system may not be adequate to meet customer requirements. Please provide sufficient information to demonstrate that the distribution system is adequate in all other locations.

Company Response:

As briefly discussed on pages 81 and 83 of the Company's filing, the LNG plant is required for minimum pressure support to maintain service to customers. This occurs in the western portion of the Company's distribution system (Gardner) and was an important reason the LNG plant was sited in Westminster in 1973.

As indicated in the response to DTE-1-43, the Company has not had to interrupt firm service in the last five years. The company monitors the pressure in various areas of its distribution system and annually reviews the needs for upgrades to the distribution system to maintain system integrity, therefore, the Company does not expect to curtail or interrupt firm service during the forecast period.

Person Responsible: David K. Foote

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2003 INTEGRATED GAS RESOURCE PLAN
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**COMPANY'S RESPONSES TO THE DEPARTMENT'S
FIRST SET OF INFORMATION REQUESTS**

DTE-1-58 Please provide a narrative description explaining the way Fitchburg makes its daily and monthly gas purchase decisions.

Company Response:

In making monthly natural gas purchasing decisions, the Company seeks to secure as much of its gas supply from Nymex settlement prices prior to the beginning of the month, while allowing for adequate flexibility for the Company to be able to handle design warm month and design cold month firm load obligations and summer storage injection requirements. Typically, the Company determines a daily baseload amount of natural gas for the month, based on normal weather conditions and historical weather patterns. The Company nominates this daily baseload amount for each day of the month. The daily baseload amount is typically sourced from gulf supplies (Tennessee Gas Pipeline ("TGP") Zone 0 or Zone 1 receipt points), market-area supplies (TGP Zone 4 or Zone 6 receipt points), or storage withdrawals (TGP Zone 4).

Gulf supplies and market-area supplies are typically priced at a monthly index (either a published index or NYMEX natural gas futures) and typically the Company has rights to lock-in the price for a given month prior to the publishing of the index or final settlement of the NYMEX futures contract. The Company uses its professional judgment in deciding whether to exercise its right to lock-in prices prior to the finalization of the index price, considering as much publicly available information as possible regarding the outlook for natural gas commodity prices. This publicly available information is reviewed on a daily basis. Any natural gas storage withdrawals are at fixed cost, since the price was locked at the time of the storage injection.

In making daily natural gas purchasing decisions, the Company seeks to ensure that it has balanced its natural gas supply deliveries with its expected daily load obligation. Both expected firm and interruptible load obligations are considered in making daily natural gas purchasing decisions. When expected natural gas supply requirements for the Company's firm customers exceed the daily baseload amount, the Company nominates the appropriate incremental amount. This

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DTE-1-58

Company Response (cont.):

incremental natural gas supply is secured through incremental storage withdrawals, incremental nominations on the Company's firm commodity contracts (both gulf supply and market-area supply), supply under its Operational Balancing Agreement provisions with Tennessee Gas Pipeline, firm spot purchases, or peaking supplies. The Company regularly monitors its storage and peaking supply balances to insure that both are adequate to meet design conditions before these resources are used for economic purposes. Otherwise, the Company fills the incremental gas supply requirement with the most economic resource available. The Company makes spot purchases to supply any interruptible customers the Company is able to serve for the day.

Person Responsible: Richard MacInnis.